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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,141	03/31/2000	Wenjun Zeng	TAL7146.68	3007

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EXAMINER

AN, SHAWN S

ART UNIT PAPER NUMBER

2621

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,141

Applicant(s)

ZENG, WENJUN

Examiner

Shawn S. An

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 19 and 28-31 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-14 and 20-27 is/are rejected.
- 7) ☒ Claim(s) 10 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Remarks

1. Applicant's remarks as filed on 5/19/06 have been fully considered but they are not persuasive.

The Applicant present arguments of which the cited prior art references fail to disclose:

A) detecting an approximate direction of an image edge in a block of image pixels and *establishing a filtering axis relatively parallel to said direction*; and

B) a reasoned explanation for the combination of the cited references.

However, after careful scrutiny of the cited prior art references, the Examiner must respectively disagree, and maintain the grounds of rejection for the reasons that follow.

In response to argument A), Lee discloses a method of processing a decompressed image comprising performing one-dimensional gradient operation in the horizontal direction and vertical **direction** on the image data in order to find **edge** pixels (Note: this particular teaching has substantial relevance to claimed detecting an approximate direction of an image edge in a block of image pixels) (col. 3, lines 8-17), and *establishing a filtering axis relatively parallel to **said direction*** to determine whether edges are present in the filter window (Fig. 2).

Further, Chien et al teaches a video decompression system, and a method of processing a decompressed image (Fig. 2, 26; Fig. 3, 34) comprising detecting an approximate direction of an image edge in a block of image pixels (col. 4, lines 36-44) for providing lesser motion artifacts and high spatial resolution (col. 4, lines 52-56). Further,

Therefore, it would have been considered quite obvious to a person of ordinary skill in the relevant art employing the Lee's reference to further incorporate Chien's teaching as discussed above as an additional measure of efficiently determining edges in a block of image pixels, thereby providing lesser motion artifacts and high spatial resolution.

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In response to argument *B*), please refer to the argument A) response, directly above.

Furthermore, in response to Applicant's argument that there is no motivation/suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Moreover, in response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9 and 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (6,226,050 B1) in view of Chien et al (5,621,467) as previously discussed in the last Office action as filed on 1/18/06.

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4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (6,226,050 B1) in view of Simpson (5,754,702) and Chien et al (5,621,467) as previously discussed in the last Office action as filed on 1/18/06.

5. Claims 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (6,226,050 B1) in view of Borer (6,069,670) and Chien et al (5,621,467) as previously discussed in the last Office action as filed on 1/18/06.

Allowable Subject Matter

6. Claims 10 and 15-17 are objected to as being dependent upon a rejected base claim 9, but would be allowable: if either one of claim 10 or claim 15 is rewritten in independent form including all of the limitations of the base claim 9 and any intervening claims.

Dependent claim 10 recites the novel features comprising the steps of:

- A) designating a plurality of candidate axis;
- B) identifying a first and a second pixel located on a projection parallel to a candidate axis, the first/second pixels located in a vicinity of a first/second boundary of the block;
- C) determining a difference between the first and the second pixel;
- D) repeating the above steps B) and C) for the plurality of axis;
- E) identifying as the filtering axis the candidate axis corresponding to a function of a minimum difference between the first and the second pixels.

Dependent claims 15-17 recite the novel features comprising the steps of:

- A) selecting a pixel of the filtering segment adjacent to the boundary for inclusion in the filtering range, and
- B) successively including in the filtering range a next contiguous pixel until a difference between a last pixel included in the filtering range and the next contiguous pixel exceeds a continuity threshold.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in condition for allowance.

7. Claims 18-19 and 28-31 are allowed as having contained the allowable subject matter. Claims 18-19 and 28-31 recite novel features as discussed in the last Office action as filed on 1/18/06.

The art of record fails to anticipate or make obvious the novel features as specified in these claims.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

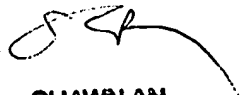
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Shawn S An** whose telephone number is 571-272-7324.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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11. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



SHAWN AN
PRIMARY EXAMINER

8/05/06